DESCRIPTION OF PLATES.

XIII

Fig. 1. Head of larva, dorsal view. X 55.
Fig. 2. Head of larva, ventral view. X 55.

XIV

Fig. 1. Detail of antenna, larva, showing appendix. X 235.
Fig. 2. Anal cerci of larva, dorsal view. X 55.
Fig. 3. Anal cerci of pupa, ventral view. X 55.
Fig. 4. Pupa, dorsal view. X 20.
Fig. 5. Pupa, ventral view. X 20.

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## SOME MYRMECOPHILOUS INSECTS FROM HAYTI.[1]

By William M. Mann,
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The insects here noted were collected in Hayti during the winter of 1912–13. Few myrmecophilous insects have been recorded from the West Indies, though no doubt many occur there as the ant fauna is varied and abundant and contains many ancient types. Of these *Aphænogaster relicta* Wheeler & Mann is the predominant Myrmicine ant on the island, and this species was found to harbor several interesting inquilines.

In addition to the species recorded in these notes several others of possibly myrmecophilous habits were taken. I hope to list these after further study.

Mr. A. B. Wolcott, of the Field Museum at Chicago, has very kindly drawn the accompanying figures.

The types of the new species have been deposited in the Museum of Comparative Zoölogy at Cambridge.

### ORTHOPTERA.

#### Family Gryllidæ.

**Myrmecophila prenolepidis** Wasmann.

A single specimen was taken from a colony of *Prenolepis longicornis* Latr. at Manneville near the shores of Lake Assuei. Another

[1] Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 101.

was seen in this locality in a nest of the same species of ant, but escaped. This cricket was described by Wasmann from examples sent to him from India by P. J. Assmuth, and from Pará, Brazil, by E. A. Göldi. In both localities the host ant was *Prenolepis longicornis*. Wasmann's Brazilian specimens were lighter in color than those from India and the light transverse abdominal band was indistinct. The Haytian example is more like the Indian form, being dark brown in color with a distinct light yellowish band transversely across the first segment of the abdomen.

This cricket and the beetle, *Coluocera maderæ* Woll., are the characteristic guests of *Prenolepis longicornis*. The host ant is one of the most widely distributed of all the Formicidæ. It has been recorded from practically all tropical and subtropical regions, and occurs occasionally even in the temperate parts of the world, where it has been introduced through commerce. Nests are of common occurrence on shipboard. It is evident from the varied localities from which the two inquilines have been recorded, that they are capable of adapting themselves to the different environments in which the host nests, and that they are extending their range, following the ant in its wanderings.

## HEMIPTERA.

### Family Cercopidæ.

Two nymphs of an undetermined Cercopid were found with large colonies of *Aphænogaster relicta* subsp. *epinotalis* Wheeler & Mann at Manneville. The body of this Hemipteron is very much flattened dorsoventrally, so that it has the appearance of a small cockroach, which it resembles also in its manner of running.

### Family Membracidæ.

A single immature individual of an undetermined Membracid was found living in a nest of *Macromischa sallei* subsp. *haytiana* Wheeler & Mann at Furcy. Enslin has recently observed (Zeits. f. wiss. Insektenbiol. Vol. VII, pp. 19–21) that the European ant *Formica cinerea* F. often carries into its nests nymphs and adults of *Gargara genistæ* F., a common European Homopteron. Those which he observed soon died, probably because of lack of food in the subterranean nests of the ants. The nest of Macromischa,

which is built of carton about the branches of living shrubs, offers available food supply to any Homopteron that might enter or be carried into it. Still the habit can not be very general, for numerous nests were examined and no more individuals were found.

**Fustiger haytiana** sp. nov. (Figs. 1 and 2.)

*Length*, 2.25 mm. Color yellowish brown, the head, antennæ and prothorax considerably darker than the abdomen. Head a little more than twice as long as broad, broadest behind the eyes, from which the sides are nearly straight and slightly converging to occiput; occipital corners angulate, the border deeply concave; sides in front of eyes slightly convex, nearly as widely separated at base of clypeus as at eyes, eyes convex, about one sixth as long as head; antennæ slightly longer than head, third joint clavate, constricted at basal third, about seven times the length of the second, broadly rounded at apex; head and antennæ subopaque, coarsely rugulose-punctate, beset with short yellowish hairs, which are erect on head and at apex of antennæ, and semi-recumbent on remainder of antennæ. Prothorax as long as head, broadest in front of middle, narrowed anteriorly; sides posterior to the broadest part slightly concave; posterior corners angulate, the border slightly concave; disc with a large shallow, median fossa a little posterior to the middle. Elytra shining, finely, sparsely punctate, with scattered, short, erect hairs; together three fourths as long as broad; anterior border concave; sides rounded, gradually diverging to the posterior border; posterior corners rounded. Inner border of each elytron strongly, though narrowly margined, with an entire stria approximate and parallel to the margin. Abdomen shining, finely punctate and with erect hairs; at base a little narrower than the elytra; first segment basally very deeply impressed transversely and having on either side of this depression a large rounded tubercle which bears a thin bunch of short, recumbent hairs; sides rounded, margined, with strong striæ that extend from the middle of tubercles to the apical corners of first segment. Propygidium about three times as broad as long. Legs rather slender; tibiæ apically as thick as the femora; with suberect hairs. Middle femora with a long, curved, blunt process near the base. Ventral surface shining, minutely punctate.

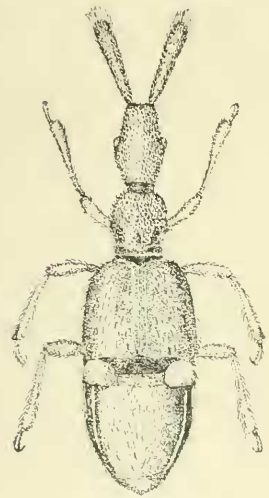

Fig. 1. *Fustiger haytiana* sp. nov.

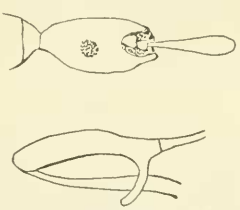

Fig. 2. *Fustiger haytiana* sp. nov. above, head from side; below, middle femur.

Described from a single specimen taken at Diquini in a nest of *Aphænogaster relicta*. The only other West Indian Fustiger is *F. smithi* Raf. from St. Vincent. *F. haytiana* differs in being larger (*smithi* is only 1.65 mm. in length) and in not having the elytra rugosely punctate at base.

### Family Lathridiidæ.

#### Coluocera maderae Woll.

Taken in numbers at Manneville, in company with *Prenolepis longicornis*.

This beetle was first described from Madeira, where it was found in the nest of an ant. The name of the host was not given, but Wasmann reasonably supposes that it was *Prenolepis longicornis*. This author has given an interesting account of the beetle (Zeitschr. f. wiss. Insektenbiol. 1905, pp. 384–390), in which he records it from India, Pará, Brazil, and the island of Trinidad as well as from Madeira. In each locality it occurs with *Prenolepis longicornis*, but in India it has been found also with *P. indica* Forel and also with species of the genus *Pheidole*, however, usually with the first named ant. Assmuth notes (Zeitschr. f. wiss. Insektenbiol. 1907, p. 330) that at Bombay, India, it is very abundant, while rare at Khandalo. In Hayti about Lake Assuei it was abundant, but sporadic. Dozens of specimens occurred in some nests while in the immediate vicinity others would not contain a single individual, and although the host ant is common throughout the island at the lower altitudes, I did not find the beetles in any other locality.

## HYMENOPTERA.

### Family Bethylidæ.

#### Pseudisobrachium terresi sp. nov.

*Female* (Fig. 3): Length, 6 mm. Color black, except the mandibles, antennæ and legs exclusive of the outer side of the front coxæ, which are rufous, and the apical margins of abdominal segments, which are indistinctly rufous. Head one and one fourth times as long as broad, broadest behind base of mandibles; sides subparallel, very slightly convex; occipital margin straight; at corners broadly rounding into the sides; above closely foveolately punctured, except for a narrow, longitudinal, median space extending the entire length, which is smooth. Clypeus very strongly

carinate. Mandibles thick, tridentate. Antennæ short, extending about half their length past the occipital margin, 13-jointed; the scape punctate, as long as the first five joints of the flagellum together; pedical globular; first and second joints of flagellum equal, slightly longer than broad; joints 3 to 10 transverse, subequal; apical joint nearly twice the length of penultimate. Ocelli absent; eyes minute, situated on sides of head at about one sixth the distance from clypeus to occiput. Prothorax one and three fourths times as long as broad, sides nearly parallel, rounded anteriorly, coarsely but sparsely punctate except for a smooth longitudinal median surface; the collar densely, minutely striolate transversely. Mesothorax subcordate, without a scutellum, separated from prothorax by a deep impression; with distinct parapsidal furrows; mesonotal furrows strongly impressed, diverging outwardly at anterior border, extending entire length; surface above smooth at middle and in a narrow space outward from the furrows and parallel to them, elsewhere with scattered coarse punctures. Metanotum twice as long as broad, broadest behind middle, smooth at middle, coarsely punctate at sides, posterior portion delicately striolate transversely. Abdomen cylindrical, about three times as long as broad, with fine scattered punctures. Legs stout, finely punctate, middle tibiæ and tarsi spinose.

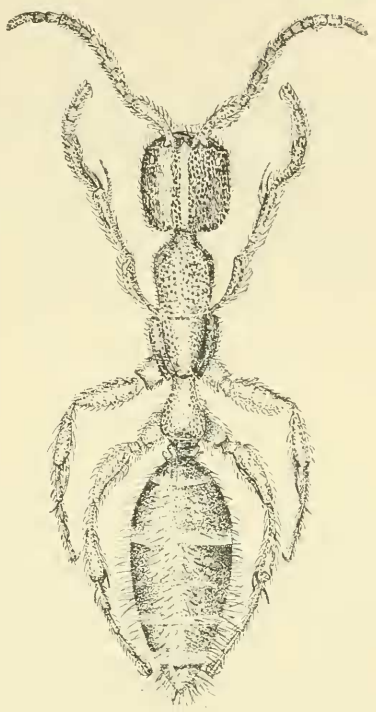

Fig. 3. *Pseudesobrachium terresi* sp. nov.

Body shining, with scattered yellow hairs, which are most abundant on abdomen, legs, head and antennæ.

Described from a single specimen taken in a nest of *Aphænogaster relicta* at Diquini. The species is named after Dr. John B. Terres, United States Consul General to Hayti, in recognition of his interest in the fauna of the island. The only other species of *Pseudisobrachium* known to occur in the West Indies are *P. collinum* and *P. albipes* which were described by Ashmead from males taken in St. Vincent. Besides *terresi* the habits of only five species of this genus have been recorded and these all live

in ant nests, where it is to be supposed they are parasitic on the immature stages of the hosts.

## DIPTERA.

### Family Syrphidæ.

Several pupæ of a Microdon-like insect were found at Diquini beneath bark with colonies of *Pheidole flavens* Roger var. *haytiana*. These pupæ are small (4 mm. in length) and reticulately tuberculate. Between these tubercles the surface is smooth. The tegument is very thin. I was not able to rear any adults.

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## NOTES AND DESCRIPTIONS OF PIPUNCULIDÆ.

By Nathan Banks,
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During the past few years I have taken a number of Pipunculidæ, and in going over the material with that named by Cresson I am able to identify most of them and find four species that are plainly new; a few other specimens may also be new. Several of the species I have taken in Virginia for the first time, making 27 species of *Pipunculus* from Virginia.

**Pipunculus loewi** Kertz.

A male from Glencarlyn, Va., 23 June, runs here in the table and agrees with the description. It has a banded abdomen as in my new species *cinctus*, but the hypopygium is larger, not cleft, and the stigma is shorter.

**Pipunculus houghi** Kertz. (*femoratus* Cr.).

A female from Falls Church, Va., 9 July, agrees with description and the male cotypes.

**Pipunculus æquans** Cr.

Various specimens from Chain Bridge, Falls Church, and Glencarlyn, Va., in June and July agree with a cotype.

**Pipunculus varius** Cr.

From Chesapeake Beach, Md., and Falls Church, Va., in September and October, agree with type from Pennsylvania.